UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

MASSACHUSETTS DEVELOPMENT FINANCE AGENCY,

Plaintiff

v.

ADP MARSHALL, INC., a FLUOR DANIEL COMPANY, and FIREMAN'S FUND INSURANCE COMPANY,

Defendants

CIVIL ACTION
NO. 04-CV-10203-PBS

ADP MARSHALL, INC.,

Plaintiff-in-Counterclaim,

v.

MASSACHUSETTS DEVELOPMENT FINANCE AGENCY,

Defendant-in-Counterclaim

ADP MARSHALL, INC.,

Third-Party Plaintiff

v.

ALLIED CONSULTING ENGINEERING SERVICES, INC., ANDOVER CONTROLS CORPORATION, R&R WINDOW CONTRACTORS, INC. and DELTA KEYSPAN, INC. n/k/a DELTA KEYSPAN, LLC,

Third-Party Defendants

EXPERT DESIGNATION OF THE THIRD-PARTY DEFENDANT, ALLIED CONSULTING ENGINEERING SERVICES, INC.

Pursuant to the Court's Second Scheduling Order, the third-party defendant, Allied Consulting Engineering Services, Inc. ("Allied") submits the following expert designation.

Mr. Kenneth M. Elovitz, PE

Allied identifies Kenneth M. Elovitz, PE of Energy Economics, Inc. as its expert. Mr. Elovitz's background and qualifications appear in the attached biography.

Mr. Elovitz is expected to testify generally concerning the design, construction, operation, and maintenance of the HVAC systems located at the Advanced Technology and Manufacturing Center, a 65,000 square foot laboratory and research center in Fall River, Massachusetts (the "Project"). He is expected to testify in general that Allied's services in connection with the Project complied with applicable standards and good engineering practice. Mr. Elovitz is also expected to offer the following testimony relative to the plaintiff's claims presented in the "Comeau report" dated April 9, 2003 as follows:

1. With regard to the claim that the outside air intake louver is too small, resulting in water carryover (Comeau report item 1), Mr. Elovitz is expected to testify:
   (a) Any water carryover through the louver is not likely to be due to the design velocity through the louver.
   (b) The statement in the report that the typical industry standard for outside air louvers is 350 fpm maximum face velocity is a designer's preference and not an industry standard. Furthermore, louver performance needs to be evaluated by the manufacturer's published test data, not rules of thumb.

(c) The owner's consultant during construction (SMMA) evaluated the louver face velocity, rejected the initial submittal, and approved the louver ultimately selected.

Mr. Elovitz bases his opinion on the manufacturer's test data for the submitted drainable blade louver, which show no water penetration below 1099 fpm free area face velocity at the extreme rainfall rate of 4"/hour.

2. With regard to the claim that the penthouse outdoor air intake louver plenum construction does not match the design documents (Comeau report item 2), Mr. Elovitz is expected to offer no opinion as the claim relates to installation, not design.
3. With regard to the claim that the penthouse outdoor air intake louver plenum ins only 20" deep instead of the 36" depth shown on the design documents (Comeau report item 3), Mr. Elovitz is expected to offer no opinion as the claim relates to installation, not design.
4. With regard to the claim that the outside air intake duct for AHU-3 is under sized (Comeau report item 4), Mr. Elovitz is expected to testify that the consultant's recommendations for duct velocity are a designer's preference, and proper system performance does not require adhering to them. Mr. Elovitz is also expected to testify that the owner has not demonstrated that water carryover down the duct has occurred or that the water stains on the floor are due to water leakage from the outside air intake duct. Mr. Elovitz bases that opinion on the following:

(a) With an outside air louver selected and sized to exclude water and an outside air intake plenum designed to let any water that might enter the airstream drop out and drain away, an outside air duct with a velocity that might be high enough to

carry water is not itself a design deficiency. A design that incorporates two measures to avoid water penetration (high performance louver and deep plenum) does not need to include a third (low duct velocity resulting in larger, more costly ductwork that will be more difficult to fit in the space available).

(b) Observing the water stain on the floor near AHU-3 during a site visit on 29 October showed that the water stain appeared to originate at a condensate drain line fitting underneath the air handling unit. That conclusion is based on noting that the stain is narrowest near the drain line and broadens as the puddle spread out.

5. With regard to the claim that the outside air intake duct for AHU-1 is under sized (Comeau report item 5) Mr. Elovitz is expected to testify that the consultant's recommendations for duct velocity are a designer's preference, and proper system performance does not require adhering to them.

As basis for that opinion, Mr. Elovitz is expected to state that a design that incorporates two measures to avoid water penetration (high performance louver and deep plenum) does not need to include a third (low duct velocity resulting in larger, more costly ductwork that will be more difficult to fit in the space available).

Mr. Elovitz is also expected to testify that the owner has not demonstrated that water carryover down the duct has occurred.

6. With regard to the claim that AHU-2 serving the "knuckle" has insufficient cooling capacity (Comeau report item 6), Mr. Elovitz is expected to testify as follows:

(a) The biggest factor in the perceived cooling shortfall is that the building has glass with a shading coefficient of 0.70 instead of the shading coefficient of 0.36 in a

fax dated 10/3/00 that Allied received from Marshall that appears to be the glass that was the basis of design.

(b) The owner has not provided any measured indoor temperature data, so the claim contains insufficient information to quantify it and determine whether the problem is local or widespread.

7. With regard to the claim that the design called for certain air valves to be installed without reheat coils (Comeau report item 7), the claim does not identify the specific air valves at issue so does not contain enough information to formulate a response.

8. With regard to the claim that the exhaust ducts above the roof were not sealed (Comeau report item 8A), Mr. Elovitz is expected to offer no opinion as the claim relates to installation, not design.

9. With regard to the claim that the exhaust ducts and heat recovery plenum above the roof were not insulated (Comeau report item 8B), Mr. Elovitz is expected to testify that insulation, if included, would constitute a betterment that would have increased the owner's cost for the project accordingly and that the cost to add insulation now would not be substantially higher than if it had been included in the cost of the project.

10. With regard to the claim that the heat recovery system is deficient because "bleed" air is introduced at the end of the duct, reducing the temperature of the air entering the heat recovery coil (Comeau report item 8C), Mr. Elovitz is expected to testify that the design is based on maintaining a constant airflow in the 40" duct on the roof (specification section 15600-3.28K on page 44). Maintaining constant airflow (and

resulting velocity) is a common design concept for process exhaust systems to protect against moisture and particulates dropping out of the exhaust airstream. The tradeoff between optimizing heat recovery and maintaining constant conveying velocity is a designer's choice that does not have a right or wrong answer. In this case, the choice of maintaining constant velocity was also directed by the owner's design consultant (SMMA). See Allied memo of 11/6/00. Therefore, any criticism of the choice of design concept is not properly directed at Allied.

11. With regard to the claim that the contractor did not provide detailed equipment shop drawings (Comeau report item 9), Mr. Elovitz is expected to testify that preparing shop drawings is a contractor responsibility, not a design responsibility. However, Mr. Elovitz is also expected to testify that he delivered copies to the major equipment shop drawings to the plaintiff's consultant.

12. With regard to the claim that the temperature control shop drawings do not have an "english language description" (Comeau report item 10), Mr. Elovitz is expected to testify that preparing shop drawings is a contractor responsibility, not a design responsibility. Mr. Elovitz is further expected to testify that an "english language description" of the control functions might be beneficial to understanding how the controls perform but is not necessary for proper system function. Mr. Elovitz bases that opinion on his understanding of the practice of the industry that has contractors prepare shop drawings and the functioning of control systems.

13. With regard to the claim that an air and water balancing report was not submitted (Comeau report item 11), Mr. Elovitz is expected to testify that providing a balancing report is a contractor responsibility, not a design responsibility. Mr.

Elovitz bases that opinion on the practice of the industry and the contract between Marshall and Allied which calls for Allied to provide design services, not construction work.

Mr. Elovitz is further expected to testify that a balancing report was prepared and that he delivered a copy of that balancing report to the owner's representative (Bill Whelan) during a site visit on 9 November.

14. With regard to the claim that certain areas have insufficient heat (Comeau report item 12), Mr. Elovitz is expected to testify that the fundamental problem with the heating system at this site is that the contractor installed and set up a pump to deliver 325 gpm when the design drawings called for that pump to deliver 470 gpm. As a result, the full heating capacity of the boilers was not available to the building heating system loop. Moreover, heating system performance is further compromised because the contractor piped the supply and return connections to the building heating loop in the wrong locations on the 470 GPM piping loop. As a result, the hottest supply water to the building heating loop is a mix of hot water from the 470 GPM loop and return water from the air handling unit heating loop. Therefore, the supply temperature to the building heating loop is not as hot as it should be, and the heating loop cannot deliver its design capacity.

Mr. Elovitz is further expected to testify that some of the under heating complaints at the ends of the corridors are due to excessive infiltration as a result of improperly installed or adjusted door sweeps and weatherstripping that does not seal.

Mr. Elovitz bases these opinions on his observations of the door in the west end corridor during a site visit on 29 October and on tracing out the installed piping system with the owner's consultant during a site visit on 9 November, a review of the balancing report, and his analysis of the flow relationships.

15. With regard to the claim that the heating hot water distribution system should have 3-way valves at the end of each of four piping loops (Comeau report item 13), Mr. Elovitz is expected to testify as follows:

(a) The choice between using 2-way and 3-way valves is a designer's choice, and neither is right or wrong.

(b) Installing a 3-way valve at the end of each piping loop is not necessary for proper system operation.

(c) The main benefit from implementing the consultant's suggestion to install a 3-way valve at the end of each piping loop would be the possibility of faster control response (a matter of a few minutes at most) at times of very light loads and only if the remote areas are the only ones calling for heat. That potential benefit would have to be weighed against increased pumping costs and increased piping heat loss.

(d) The main problem with the heating system and the primary reason for insufficient heat is that the wrong pump was installed and the building heating loop supply and return connections to the heating supply loop are in the wrong orientation.

Mr. Elovitz bases this opinion on his findings and analysis described in paragraph 14 above.

BIOGRAPHY
KENNETH M. ELOVITZ

Kenneth M. Elovitz is an engineering consultant who analyzes energy systems, emphasizing function and performance. Mr. Elovitz received a BS in Metallurgy and Materials Science with Highest Honors from Lehigh University in 1975 and is a Registered Professional Engineer (Mechanical and Electrical). He received a JD from Suffolk University Law School in 1984 and has been admitted to practice in state and federal courts.

Mr. Elovitz began his career as a Metallurgical Engineer with Bethlehem Steel Corp. where he performed process development, testing, and quality control functions in a full range of steel melting and finished product applications. Then as a Process Engineer for Texas Instruments, he was responsible for developing and implementing manufacturing processes for a product line of gold clad copper alloy strip used in electronic contacts.

Mr. Elovitz joined Energy Economics, Inc. in 1980 where he faces a wide variety of assignments. Almost all deal with assessing functional aspects of building systems, whether new, retrofit, or existing. His involvement ranges from developing design concepts and performance criteria to field testing and analysis. His skills often help resolve disputes, either formally or informally. His favorite assignments have heavy technical content, involve difficult problems, or present an opportunity to turn lemons into lemonade.

Mr. Elovitz has addressed local, regional, and national meetings of various technical societies and is featured on a videotape produced by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) on commissioning

building systems. He also serves as engineering editor for a series of "practical guide" supplements to the ASHRAE Journal. He has published more than 35 papers and articles in ASHRAE Journal, ASHRAE Transactions, Plant Engineering, Heating/Piping/Air Conditioning, and Consulting-Specifying Engineer.

Mr. Elovitz is a member of ASHRAE, the Institute of Electrical and Electronics Engineers (IEEE), and the National Fire Protection Association (NFPA). He serves on NFPA's technical committee on stationary internal combustion engines. He is also an arbitrator for the Better Business Bureau, a former instructor in the Northeastern University Building Technology Program, and a past-president of his local chapter of the Massachusetts Society of Professional Engineers.

KENNETH M. ELOVITZ, PE
PREVIOUS TESTIMONY

State v. Edward Sherman, New London Superior Court (Connecticut); 1991-1992; affirmed 38 Conn. App. 371 (1995).

Georgetown I LP v. Esther & Lewis Drayton (92-SP-2707); Drayton v. Boston Rent Equity Board (92-CV-01003), Boston Housing Court (Massachusetts); 1991 and 1993.

Wayne J. Griffin Electric, Inc. v. Paul E. Choiniere, Inspector of Wires, Town of Amherst; Massachusetts Board of Electricians' Appeals, Docket No. 69, File No. BEA 93-93; 1994.

Lottero + Mason Associates, Inc. (John J. MacDonald, PE) v. Robert J. Horgan, Inspector of Wires, City of Worcester; Massachusetts Board of Electricians' Appeals, Docket No. 77, File No. BEA 95-101; 1995.

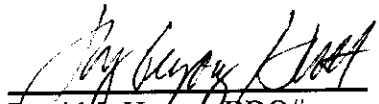
Tritter v. Kittredge Realty Trust (Massachusetts); Middlesex Superior Court; Civil Action No. MICV 91-01891; 1992-1996.

C&M Electric v. Building #19, Inc.; Hingham (Massachusetts) District Court; Civil Action No. 9458 CV 0372; 1994-1998.

Kevin Johnson, et al. v. Foster Wheeler Environmental Corporation v. General Chemical Corporation; Civil Action No. CV-01-199; Superior Court (Maine); 2001-2003 (deposition testimony).

Respectfully submitted,

ALLIED CONSULTING ENGINEERING SERVICES, INC.
By its Attorneys



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Dated: March 25, 2005

CERTIFICATE OF SERVICE

I, Jeffrey W. Hallahan, Esquire, hereby certify that on this 25th day of March, 2005, I served the foregoing by mailing a copy thereof, postage pre-paid to:

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